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Title : Diet and the Decline of Steller Sea Lions in Alaska

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Abstract : Merrick et al. (1997) reported a significant relationship between diet diversity and the rate of population change of Steller sea lions breeding in the Aleutian Islands and Gulf of Alaska. Sea lion populations that consumed the lowest diversity of prey experienced the highest rates of decline. One means of testing the strength of this relationship was to determine if sea lions in the growing population of Southeast Alaska had the most diverse diet of all regions studied. We collected 1,565 scats from rookeries and haulouts in Southeast Alaska between 1993 and 1999, and found the most common prey of 61 species identified were walleye pollock, Pacific herring, sandlance, salmon, arrowtooth flounder, rockfish, skates, squid and octopus. Summer diets consisted primarily of herring, sandlance, salmon and pollock. However, pollock dominated the diet during fall, winter and spring. Summer diets of mature males (bachelor bulls) and breeding females at Forrester Island differed significantly from one another, with males consuming significantly fewer salmon, and more pollock and rockfish compared to females. The males also consumed larger pollock compared to females. Overall, Steller sea lions in Southeast Alaska consumed the highest diversity of prey species during summer, and the least diverse during fall. Their summer diet was also more diverse than that reported for any other region of Alaska (Gulf of Alaska and Aleutian Islands) and is consistent with the relationship reported by Merrick et al. (1997). The connection between dietary diversity and population change appears to be the energy content of the prey consumed in the different regions. Populations that consumed lower diversity diets also consumed lower energy prey (primarily pollock) and experienced higher rates of population decline throughout Alaska.